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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,255	03/12/2004	Vladimir Gorelik	GK-EIS-1075 / 500593/2006	8212
26418	7590	08/25/2005	EXAMINER	
REED SMITH, LLP ATTN: PATENT RECORDS DEPARTMENT 599 LEXINGTON AVENUE, 29TH FLOOR NEW YORK, NY 10022-7650			HARVEY, DIONNE	
			ART UNIT	PAPER NUMBER
			2646	

DATE MAILED: 08/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/799,255

Applicant(s)

GORELIK ET AL.

Examiner

Dionne N. Harvey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 9-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “one trapezoidal element” of claim 12; and “an air gap” between the raised portion of the backplate and the diaphragm, having a height that is less than the raised portion, must be **clearly indicated in the figures** or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claim 12** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In the reply filed 3/07/2005, applicant has stated that the top and bottom portions of the backplate, in **figure 4**, are not parallel, thus providing one trapezoidal element. However, though the top and bottom portions of the backplate in **figure 4** are not straight line segments, they do infact appear to be parallel, thereby failing to constitute a "trapezoid" as claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims **9-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Murphy (US 3,612,778)**.

Regarding claims 9 and 16, shown in **figure 2**, Murphy teaches a transducer comprising a diaphragm **25** and a backplate **23** wherein as discussed in **column 5, line**

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71 – column 6, line 13 the backplate may be integrally formed with raised conductive posts (**see figure 3a**); and a first area, wherein the diaphragm **25** and the backplate **23** are in contact, and a second area wherein the diaphragm and the backplate are not in contact, and the first area is small compared to the second area; (see, **column 6, lines 20-21** wherein Murphy teaches that the diaphragm may contact the raised portion of the backplate; also see illustration in **figure 3a** which illustrates that the backplate's area of contact with the diaphragm is significantly smaller than the area of no contact with the diaphragm).

Murphy does not clearly teach that the raised portions **23** in the backplate are caused by embossing. However, the Applicant has not disclosed that forming cavities in the backplate, specifically by embossing, is critical the invention. Since Murphy recognizes a need in the art for forming a backplate having both a higher and lower height portion **see figure 3a**, it would have been obvious for one of ordinary skill in the art at the time of the invention to form higher and lower height portions in the backplate of Murphy using any well known technique, and without undue experimentation, for the purpose of preventing the electrostatic forces from the electret from overcoming restoring forces provided by the foil tension of the transducer.

Please note, the recitation "ultrasonic" in the preamble, has not been given patentable weight because the recitation merely recites the intended use of the structure.

Regarding claim 10, shown in **figure 3a**, Murphy teaches that the backplate has an *approximately* sine-shaped profile in cross section, as broadly claimed.

Regarding claim 11, shown in **figure 2**, Murphy teaches that the spacing between the diaphragm **25** and the surface of the backplate **23** is substantially sine-shaped.

Regarding claim 12, *as best understood with regard to the U.S.C. 112 second paragraph rejection above*, Murphy appears teaches that the backplate **23** has at least one trapezoidal element in cross section.

Regarding claim 13, shown in **figures 2 and 3a**, Murphy appears to teach that the backplate **23** has raised portions such that an air gap between the diaphragm **25** and the raised portions of the backplate is less than the height of the raised portions.

Regarding claim 14, shown in **figure 2**, Murphy teaches that the backplate has a plurality of webs (see those portions of the backplate disposed on either side of air gap **21**), which have a height and are spaced at a distance from one another, via air gap **21**.

Regarding claim 15, As stated in the rejections above, Murphy teaches the construction of the transducer as set forth in claims 9 and 14 above, and therefore teaches **fringe effects** occurring at the edge of adjacent webs. In **column 5, lines 65-70**, Murphy teaches that the cavity depth and diameter, that is the shape of each web **21**, is selected such that it is a function of the emitter displacement, reading on "the distance between two adjacent webs is selected in such a way that fringe effects occurring at the edge of the adjacent webs bridge the distance."

Response to Arguments

4. Applicant's arguments with respect to claims 9-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

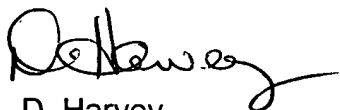
5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

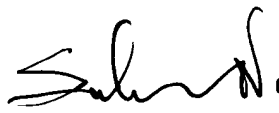
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne N Harvey whose telephone number is 703-305-1111. The examiner can normally be reached on 9-6:30 M-F and alternating Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 703-305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


D. Harvey


SUHAN NI
PRIMARY EXAMINER